UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
MERANT, GUERRIER

ART UNIT	PAPER NUMBER
2117	

NOTIFICATION DATE	DELIVERY MODE
06/05/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _27 January 2009_.

2a) ☐ This action is FINAL.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1,4 and 6-28_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1, 4, 6-28_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   In view of the Appeal Brief filed on 01/27/09, PROSECUTION IS HEREBY

REOPENED. The new grounds of rejection are set forth below.

        To avoid abandonment of the application, appellant must exercise one of the

following two options:

        (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

        (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed

by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and

appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth

in 37 CFR 41.20 have been increased since they were previously paid, then appellant

must pay the difference between the increased fees and the amount previously paid.

        A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by

signing below:

        /Kevin L Ellis/
        Supervisory Patent Examiner, Art Unit 2117

        Claims **1, 4, and 6-28 15-18** have been examined. Claims 2-3 have been

cancelled by the applicant.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 4 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 4: The medium is directed to an intangible means such as <u>an infrared transmission</u> (e.g. page 34, lines 16-21).

As per claim 22: There are no physical devices for performing the functionalities of the claim. For instance, the written disclosure describes the "agent" as any component in a computer system (e.g. a simulated component or software). Therefore, the claim is directed to an intangible means such as software per se.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 1, 4 and 22: It appears to the Examiner that the transaction record and the expected output signal are generated by the agent, according to the claim language. Therefore, it is not clear how the same agent would generate another expected output signal different from the one that was already generated.

As per claim 22, the claim contains means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function. Therefore, applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

As per claim 7: The term "snoop response" is a relative term which renders the claim indefinite. The term "snoop response" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 6-21 and 23-28 inherit the 35 U.S.C. 112, second paragraph issued of the independent claims 1 and 4 by virtue of their dependency.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1, 4, 6-11, and 13-28 are rejected under 35 U.S.C. 102(b) as being

anticipated by **Hyduke (US 5,051,938)**.

        As per claim 1: **Hyduke** teaches a computer implemented method of verifying

events generated by an agent, said method comprising:

        detecting or receiving an input signal (items 10A or 10B, fig. 1) at an input of said

agent *(e.g. col. 3, lines 46-53);*

        creating a transaction record or table (e.g. table 1A, col. 4 & fig. 6) corresponding

to said input signal (e.g. *col. 3, lines 54-68);*

        generating an expected output signal, corresponding to said transaction record,

based at least in part on said input signal (*e.g. netlists contain all information about*

system behavior that is needed for simulation- col. 3, lines 50-53);

        signaling an error when said agent does not generate said expected output

signal corresponding to said transaction record (e.g. col. 8, lines 43-48).

        As per claims 4 and 22: **Hyduke** teaches an apparatus for producing

expectations to verify events or signals generated by an agent or device comprising: at

least one computer readable medium and computer readable program code stored on

said at least one computer readable medium, said computer readable program code

comprising:

program code for monitoring, detecting or receiving at least one input (items 10A

or 10B, fig. 1) of said agent for a stimulus *(e.g. col. 3, lines 46-53);*

program code for creating a transaction record (e.g. table 1A, col. 4 & fig. 6)

corresponding to said stimulus (e.g. *col. 3, lines 54-68);*

program code for generating an expectation of an event or output, corresponding

to said transaction record, based at least in part on said stimulus, wherein said event or

output is expected to be generated by said agent as a result of said stimulus (*e.g.*

netlists contain all information about system behavior that is needed for simulation- col.

3, lines 50-53);

program code for signaling an error when said agent does not generate said

expected output signal corresponding to said transaction record (e.g. col. 8, lines 43-

48).

Claim 6: **Hyduke** teaches the apparatus of claim 4, further comprising program

code for signaling an error if said event is detected at said at least one output for

which no expectation has been produced (e.g. col. 8, lines 43-48).

Claim 7: **Hyduke** teaches an apparatus as in claim 4 above, wherein said

program code for monitoring said at least one input of said agent for said stimulus

comprises program code for monitoring at least one input of a memory agent for said
stimulus *(e.g. col. 3, lines 46-53);* aid stimulus being selected from a group consisting of
an initial request to perform a memory operation, a snoop response, and a read
response (e.g. col. 6, lines 38-49).

Claim 8: **Hyduke** teaches the apparatus of claim 4, wherein said program code
for monitoring said at least one input of said agent for said stimulus comprises program
code for identifying said stimulus using correlative information in said stimulus (e.g. col.
6, lines 32-68- figs. 6-7).

Claims 9-10: **Hyduke** teaches an apparatus as in claim 8 above, wherein said
correlative information comprises transaction identification (e.g. col. 6, lines 32-68- figs.
6-7).

Claim 11: **Hyduke** teaches the apparatus of claim 4, wherein said program code
for monitoring said at least one input of said agent for said stimulus comprises program
code for gathering said stimulus from a plurality of separately transmitted portions (e.g.
col. 3, lines 54-68).

Claims 13-14: **Hyduke** teaches an apparatus as in claim 4 above, wherein said
program code creating a transaction record comprises program code for creating a

transaction record to contain information relating to a memory transaction involving said agent (e.g. col. 6, lines 32-68- figs. 6-7).

Claim 15: **Hyduke** teaches an apparatus as in claim 4 above, wherein said program code for producing said expectation of said event comprises program code for storing expected data associated with said expectation (e.g. col. 18, lines 1-13), said expected data being received in a plurality of separate incoming transmissions in said stimulus, said expected data being expected to be transmitted by said agent in a plurality of separate outgoing transmissions in said event (e.g. col. 7, lines 10-35).

Claim 16: **Hyduke** teaches an apparatus as in claim 15 above, further comprising: program code for comparing said expected data with actual data in said event program code for signaling an error if said expected data does not match said actual data and program code for signaling an error if said actual data is not expected (e.g. col. 8, lines 43-48).

Claim 17: **Hyduke** teaches an apparatus as in claim 15 above, further comprising program code for signaling an error if any of said plurality of separate outgoing transmissions is detected before all of said plurality of separate incoming transmissions have been received (e.g. col. 8, lines 43-48).

Claims 18-21: **Hyduke** teaches an apparatus as in claim 15 above, wherein said program code for monitoring said at least one output of said agent for said event begins monitoring said at least one output for said plurality of separate outgoing transmissions as soon as a first of said plurality of separate incoming transmissions has been received (e.g. col. 6, lines 32-68- figs. 6-7).

Claim 23: **Hyduke** teaches the method of claim 1, where the step of signaling an error further comprises signaling an error when said expected output does not occur (e.g. col. 8, lines 43-48).

Claim 24: **Hyduke** teaches the method of claim 1, where the step of signaling an error further comprises signaling an error when said expected output does not occur within a predetermined time (e.g. col. 3, lines 30-34).

Claims 25-28: **Hyduke** teaches the method of claim 1, where the step of signaling an error further comprises signaling an error when no transaction record can be identified for an output (e.g. col. 8, lines 43-48).

Allowable Subject Matter

6.   Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. Merant Guerrier whose telephone number is (571) 270-1066. The examiner can normally be reached Monday through Friday from 8: 30 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ellis Kevin L, can be reached on (571) 272-4205. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 270-2066.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerrier Merant
05/21/09

/Kevin L Ellis/
Supervisory Patent Examiner, Art Unit 2117